Claims

1. Printing process with a pre-printing printing stage in which digital master image data are provided which represent an original master, digital printing data for the printing colors involved in the printing are produced from the master image data and the digital printing data are transmitted to a print shop by way of a data channel for production in the print shop of printing plates by way of the digital printing data, and an edition printing stage in which edition printing is carried out by way of these printing plates in a printing machine, comprising the steps of producing test image data representing a test image by image wise colorimetric measurement of one or more edition printing specimen by way of a color measurement;
transmitting the test image data produced in the print shop to the pre-printing stage through a data channel,
evaluating the test image data in the pre-printing stage for quality monitoring,
transmitting a result of the quality monitoring to the print shop through a data channel; and
using in the print shop the result of the quality monitoring transmitted from the pre-printing stage for at least one of the release of the edition printing and the control of the printing process.

2. Process according to claim 1, wherein in the pre-printing stage measurement positions and nominal color values at these measurement positions are determined

and transmitted through the data channel to the print shop, whereby the nominal color values are used in the print shop for the color control of the printing machine.

3. Process according to claim 1, wherein a spectrally operating color measurement system is used for the image wise colorimetric measurement of the edition printing specimen and wherein the test image data transmitted to the pre-printing stage are spectral data which include for each measured image point remission values for several, different wave lengths.

4. Process according to claim 3, wherein the wave lengths are 16 wave lengths in the range of 400 to 700nm with a respective spacing of 20nm.

5. Process according to claim 1, wherein a test image is calculated on the basis of the test image data transferred to the pre-printing stage and visually displayed on a screen and wherein the quality monitoring includes a visual comparison of the displayed test image with a reference image.

6. Process according to claim 1, wherein the quality monitoring includes a monitoring of color deviations between the nominal color values and the corresponding color measurement values contained in the test image data.

7. Process according to claim 1, wherein digital test print data are produced from the test image data transferred to the pre-printing stage, a physical test print is produced

by way of these digital test print data, and the quality monitoring includes a visual comparison of this test print with a reference image.

8. Process according to claim 7, wherein the reference image is a test print or trial print produced in the pre-printing stage by way of the digital printing data.

9. Process according to claim 1, wherein the release for the edition printing is transmitted to the print shop as a result of the quality monitoring in the pre-printing stage.

10. Process according to claim 1, wherein as a result of the quality monitoring in the pre-printing stage because of a desired color change new or modified nominal color values are transmitted to the print shop.

11. Process according to claim 1, wherein as a result of the quality monitoring in the pre-printing stage because of a desired color change new or modified layer thickness values or concentration values for the colors involved in the printing are transmitted to the print shop.

12. Process according to claim 1, wherein as a result of the quality monitoring in the pre-printing stage because of a desired color change new or modified nominal spectra or recipes for the colors involved in the printing are transmitted to the print shop.

13. Process according to claim 1, wherein as a result of the quality monitoring in the pre-printing stage because of a desired color change new or modified digital printing data are produced and transmitted to the print shop for the production of new printing plates in the print shop on the basis of the digital print data, and use of the printing plates for the edition printing.

14. Process according to claim 1, wherein the quality monitoring in the pre-printing stage includes a protocolling of the print quality of the edition printing.

15. Process according to claim 1, wherein the original master or a screen display thereof is used as reference image for the visual comparison with the test image.

16. Process according to claim 1, wherein a test print or trial print printed by way of the digital printing data and binding for the quality, or a screen display thereof, is used as reference image for the visual comparison with the test image.

17. Process according to claim 1, wherein a screen display of a virtual test print calculated from the digital printing data and binding for the quality is used as reference image for the visual comparison with the test image.

18. Process according to claim 1, wherein a virtual test print is calculated in the print shop from the digital printing data transmitted from the pre-printing stage and

displayed on a screen, and wherein this virtual test print is used for the visual comparison with the test image captured in the print shop or directly with a trial print specimen.

19. Process according to claim 1, wherein in the pre-printing stage the original master or a test print binding for the quality is image wise measured by way of a preferably spectral color measurement system, a screen display of the original master or the test print is produced from the image data obtained thereby, and the screen display is used as a reference image for the comparison with the test image.

20. Process according to claim 1, wherein the color measurement system of the print shop and the color measurement system in the pre-printing stage are equipped with a goniometric measurement geometry which allows illumination in different directions for the image capture.